

WHAT IS CLAIMED IS:

1. An electrical connector box including a nut bracket and a threaded nut molded therein, a circuit bus bar, and an L-shaped electrical power lead terminal connector, the circuit bus bar and the L-shaped terminal connector configured to be attached to an upper surface of the nut bracket by a threaded bolt fastened to the nut by passing through bolt holes provided in the L-shaped terminal connector and the circuit bus bar, said electrical connector box comprising:

a reinforcement bus bar extending downwardly along a first outer wall of said nut bracket between said first outer wall of said nut bracket and a vertical portion of said circuit bus bar.

2. The electrical connector box according to claim 1 wherein lower ends of said circuit bus bar and said reinforcement bus bar are angled and joined together by a threaded bolt.

3. The electrical connector box according to claim 1 wherein said circuit bus bar is configured as a C-shaped member, said reinforcement bus bar is configured as a U-shaped member, lower portions of both said circuit bus bar and said reinforcement bus bar are bolted together, and a vertical portion of said reinforcement bus bar reinforces a nut bracket wall other than said first outer wall along which said reinforcement bus bar extends downwardly.

4. An electrical connector box comprising:

a case;

a nut bracket provided integrally with said case, said nut bracket including a threaded nut molded into an upper portion thereof, a first outer wall extending downwardly from said upper portion, and a thin walled section of said first outer wall provided in said upper portion adjacent said threaded nut, said threaded nut configured for receiving a threaded bolt therein;

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a wiring space defined between a case wall and said nut bracket first outer wall;

a terminal connector including a bolt hole, said terminal connector fastened to an upper surface of said upper portion of said nut bracket by said threaded nut and a bolt;

a circuit bus bar including a bolt hole, said circuit bus bar fastened to said upper surface of said upper portion of said nut bracket by said threaded nut and bolt, said circuit bus bar including a vertical portion extending downwardly from said upper portion of said nut bracket into said wiring space between said case wall and said nut bracket first outer wall; and

a reinforcement member including a first vertical portion extending downwardly into said wiring space between said nut bracket first outer wall and said circuit bus bar vertical portion, wherein said reinforcement member and said circuit bus bar fill said wiring space and protect said thin walled section from damage due to bolt tightening.

5. The electrical connector box according to claim 4;

said nut bracket further comprising a second outer wall extending downwardly from said upper portion, said second outer wall positioned opposite said first outer wall, and said first and second outer walls extending to a lower portion of said nut bracket; and

said reinforcement member comprising a horizontal portion extending along a lower surface of said lower portion of said nut bracket and a second vertical portion extending upwardly from said lower portion of said nut bracket along said second outer wall so that said first vertical portion, said horizontal portion, and said second vertical portion of said reinforcement member form a U-shaped member.

6. The electrical connector box according to claim 5;

said circuit bus bar comprising a first horizontal portion extending along said upper surface of said nut bracket and a second horizontal portion extending along said lower

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surface of said lower portion of said nut bracket so that said first horizontal portion, said vertical portion, and said second horizontal portion of said circuit bus bar form a C-shaped member.

7. The electrical connector box according to claim 6;

said nut bracket further comprising a second threaded nut molded into said lower portion of said nut bracket; and

said horizontal portion of said reinforcement member and said second horizontal portion of said circuit bus bar each comprising a bolt hole therein, said reinforcement member and said circuit bus bar connected to said lower portion of said nut bracket by a threaded bolt through said bolt holes and fastened to said second threaded nut.

8. The electrical connector box according to claim 7, wherein said reinforcement member and said circuit bus bar are positioned in contact with each other such that heat dissipation is promoted.

9. The electrical connector box according to claim 7, said electrical connector box further comprising:

a second circuit bus bar including a bolt hole, said second circuit bus bar extending along said lower surface and connected to said lower portion of said nut bracket by said second threaded nut and bolt.

10. The electrical connector box according to claim 4;

said terminal connector comprising an L-shaped terminal connector including a horizontal portion and a vertical portion, said vertical portion including a lead crimped in a crimping collar of said L-shaped terminal.

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11. The electrical connector box according to claim 10;

said nut bracket further comprising a third outer wall between said first and second outer walls and extending downwardly from said upper portion; and

said horizontal portion of said L-shaped terminal connector extending along said upper surface of said nut bracket and said vertical portion of said L-shaped terminal connector extending along said third outer wall.